SPB 16-30 Pipe Bending Machine

Operating weight	39,683 lbs / 18,000 kg
Max. Operating Pressure	4,060 p.s.i. / 280 bar
Horsepower	99.5 HP (with Cat engine)

SUPERIOR MANUFACTURING

SPB 16-30 PIPE BENDER

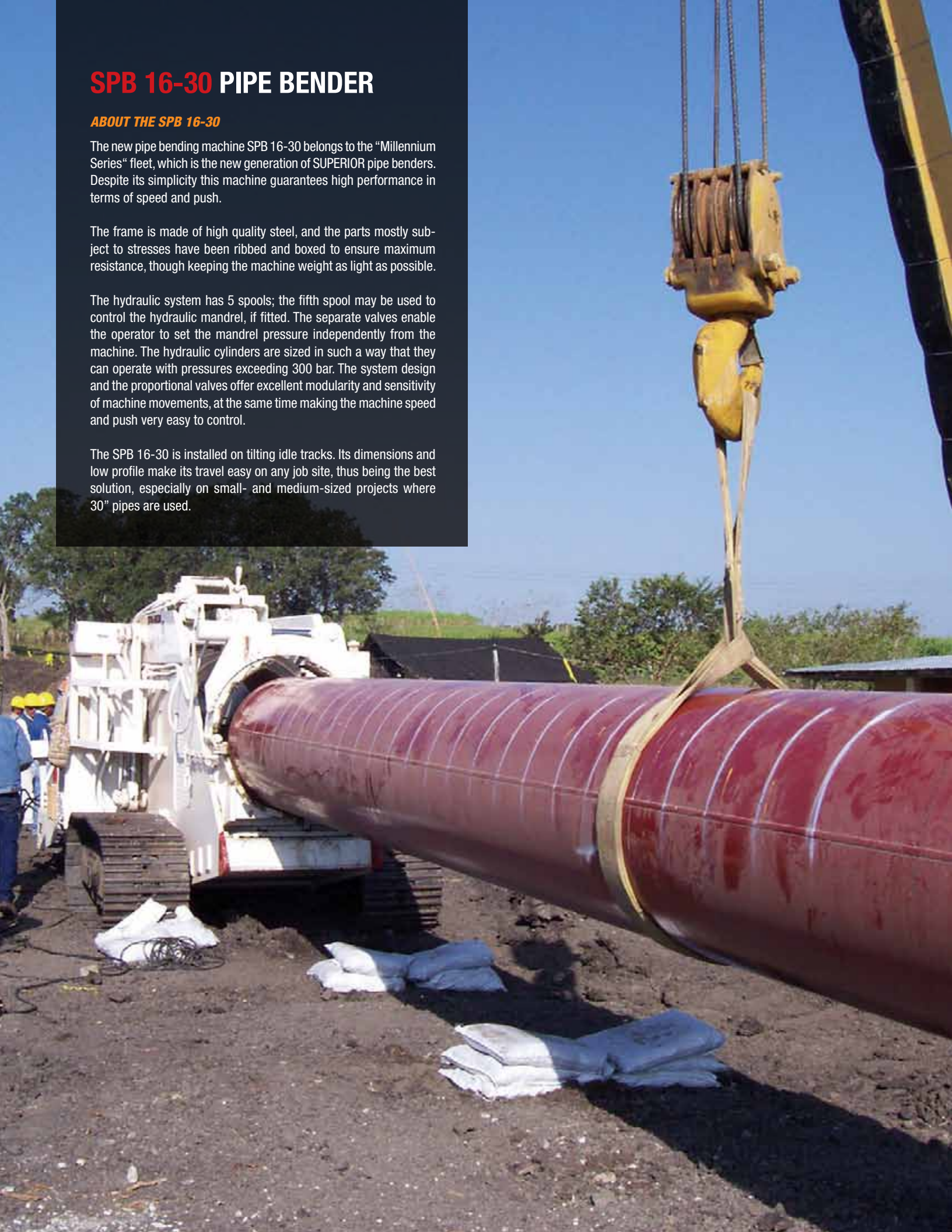
ABOUT THE SPB 16-30

The new pipe bending machine SPB 16-30 belongs to the “Millennium Series“ fleet, which is the new generation of SUPERIOR pipe benders. Despite its simplicity this machine guarantees high performance in terms of speed and push.

The frame is made of high quality steel, and the parts mostly subject to stresses have been ribbed and boxed to ensure maximum resistance, though keeping the machine weight as light as possible.

The hydraulic system has 5 spools; the fifth spool may be used to control the hydraulic mandrel, if fitted. The separate valves enable the operator to set the mandrel pressure independently from the machine. The hydraulic cylinders are sized in such a way that they can operate with pressures exceeding 300 bar. The system design and the proportional valves offer excellent modularity and sensitivity of machine movements, at the same time making the machine speed and push very easy to control.

The SPB 16-30 is installed on tilting idle tracks. Its dimensions and low profile make its travel easy on any job site, thus being the best solution, especially on small- and medium-sized projects where 30” pipes are used.



SPECIFICATIONS

ENGINE

Model	Caterpillar C-4.4 ACERT
Net flywheel power (DIN 6271)	99.5 HP
Governed speed	2,000 rpm
Displacement	4.01 liters
Number of cylinders	4
Sound proofing type	Yes

HYDRAULIC PUMP

Type	Variable axial piston pump, with pressure and flow control
Maximum flow rate	40 U.S. gal/min - 150 lt/min
Maximum constant pressure	4,061 p.s.i. / 280 bar
Maximum peak pressure	5,046 p.s.i. / 350 bar

CONTROL VALVE

Brand	Rexroth
Type	Load-sensing with proportional control (LUDV)
Spools	N.5

HYDRAULIC WINCH

Type	Hydraulic winch
Maximum pull at first layer	9,700 lbs / 4,400 kg
Hydraulic motor	Orbital DANFOSS
Frame	Aluminum allow + ductile cast iron
Reduction gear	With worm screw, irreversible
Neutral	Manual
Maximum operating pressure	2,030 p.s.i. / 140 bar
Maximum feed flow rate	42 U.S. gal/min - 160 lt/min
Speed at first layer	16 ft/min - 4,85 m/min
Recommended cable diameter	1/2 inch / Ø 10 mm
Wire rope type	6 strands with textile core
	R=2,160 N/mm2 min. breaking load guaranteed 30,000 kg

HYDRAULIC OIL TANK

Type	Metal work with filter
Capacity	50 U.S. gal / 190 lt
Cartridge type	Donaldson

FUEL TANK

Type	Metal work with filter
Capacity	52 U.S. gal / 200 lt

SPOOLS

Spool 1: Out-board and in-board cylinders, clamp

Maximum flow	39.6 U.S. gal/min - 150 lt/min
Pressure	4,351 p.s.i. / 300 bar

Spool 2: Wedge cylinder

Maximum flow	40 U.S. gal/min - 150 lt/min
Pressure	2,175-4,351 p.s.i. / 150-300[1] bar

Spool 3: Winch

Maximum flow	26 U.S. gal/min - 100 lt/min
Pressure	2,320 p.s.i. / 160 bar

Spool 4: Auxiliary control 1

Maximum flow	26 U.S. gal/min - 100 lt/min
Pressure	2,320 p.s.i. / 160[2] bar

Spool 5: Auxiliary control 2

Maximum flow	26 U.S. gal/min - 100 lt/min
Pressure	1,740 p.s.i. / 140[2] bar

[1] *Cylinder out / in pressure*
[2] *Adjustable*

FEATURES

ENGINE

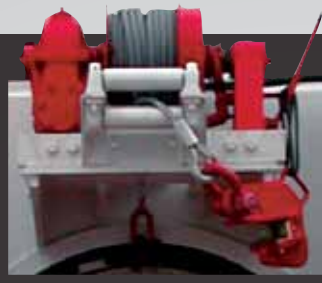
A choice of Caterpillar, Perkins, Deutz and Cummins diesel engines, all of which have many reliable and modern features, such as the water pump, integrated filtration system, and self-stretching fan towing seals.

The engine is enclosed in a sound reducing box and is located on the side opposite the operator.

It also complies with recent anti-pollution requirements in all of the industrialized nations. The engine compartment is cleverly designed to swing open to allow easier access to the engine for maintenance.

HYDRAULIC WINCHES

The hydraulic winches have a pulling capacity ranging from 3,000 to 10,000 Kg. The free drum control is located in the control panel on the operator's platform.



HYDRAULIC SYSTEM

New operator friendly hydraulic system with a load-sending variable pump and a five-spool proportional valve, allowing much safer, faster and more precise control of movements. The new valve which was only recently introduced to the market allows the regulation of the pressure and the capacity of each function according to its purpose.

The three largest machines have an automatic power controlling system allowing a quick approach and a progressive slowing down when close to the maximum push. The hydraulic system features high quality components manufactured by Mannesmann Rexroth or Parker-Voac. All these components contribute to higher productivity and a reduction in power consumption.

The Millennium Series also has stronger hydraulic cylinders that have been tested to work at high pressures. The cylinders have molybdenum chromium-plated steel piston rods with components made to bear high pressure to 6,000 PSI.

OPERATOR'S PLATFORM

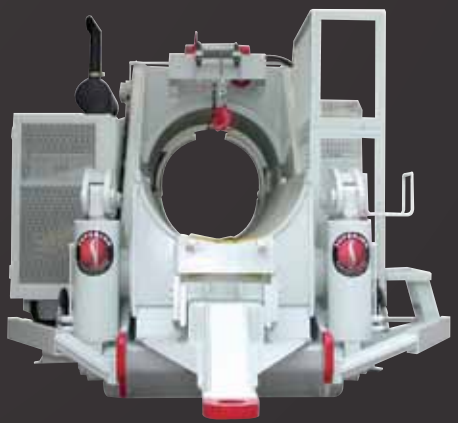
The position of the piloting platform and the engine compartment on opposite sides make this machine unique in terms of operating comfort and guarantee maximum visibility and low noise levels to the operator.

TRACKS

Caterpillar-type crawler undercarriages with triple grouser bars on industrial-grade shoes. A hydraulic cylinder controls the tensioning of the tracks, as on all earth-moving tractors.

ROLLERS

Pipe drive rollers are mounted on non-friction bearing and coated with 90 SH polyurethane for smoother handling of the pipe.



FRAME

The main frame is built with high quality steel plate and box-section design. This makes the machine stronger and more resistant to stresses, thus permitting bending of pipes with very high tensile strength.

BENDING DATA

U.S.

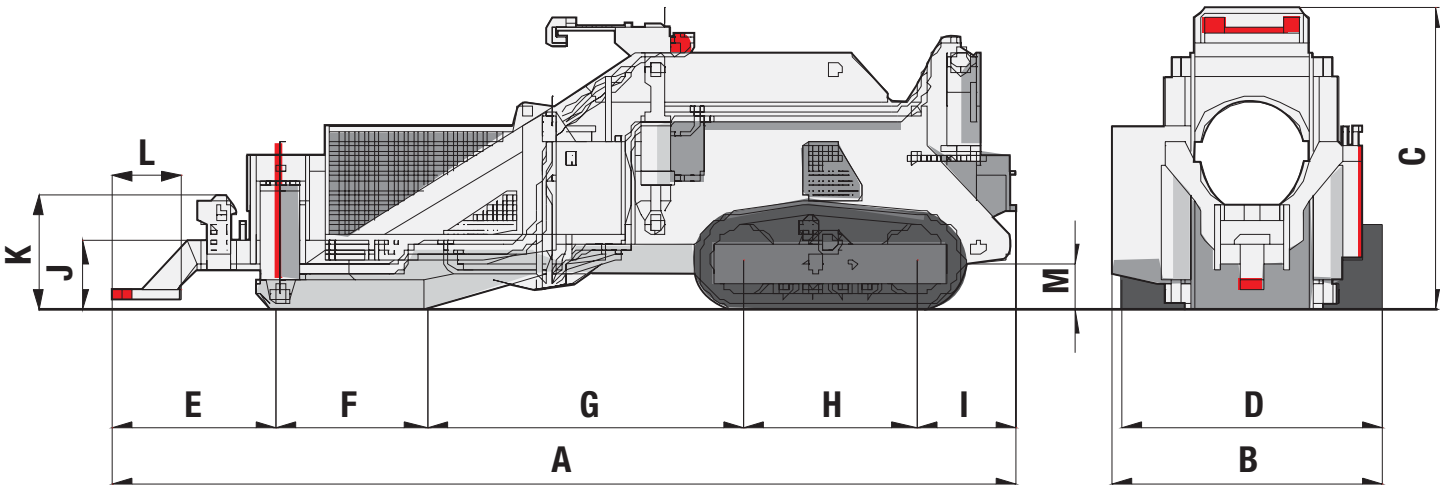
Pipe O.D.	Maximum Wall Thickness By Grade (Inch)							Recommended Bend		
inch	X52	X56	X60	X65	X70	X80	X100	Degree per Arc Foot	Radius Feet	Max Degree Per 40 Feet
16	2	2	2	2	2	2	2	1.51	38	40.80
18	2	2	2	2	2	2	1-11/16	1.10	52	29.70
20	2	2	2	2	1-15/16	1-7/8	1-9/16	0.90	64	24.40
22	2	1-15/16	1-3/4	1-5/8	1-7/16	1-1/4	15/16	0.80	72	21.60
24	1-5/8	1-1/2	1-3/8	1-1/4	1-1/8	1	3/4	0.75	76	20.25
26	1-5/16	1-3/16	1-1/8	1	15/16	13/16	5/8	0.70	82	18.90
28	1-1/8	1	15/16	7/8	3/4	11/16	1/2	0.65	88	17.60
30	15/16	7/8	13/16	3/4	11/16	9/16	7/16	0.60	96	16.20

METRIC

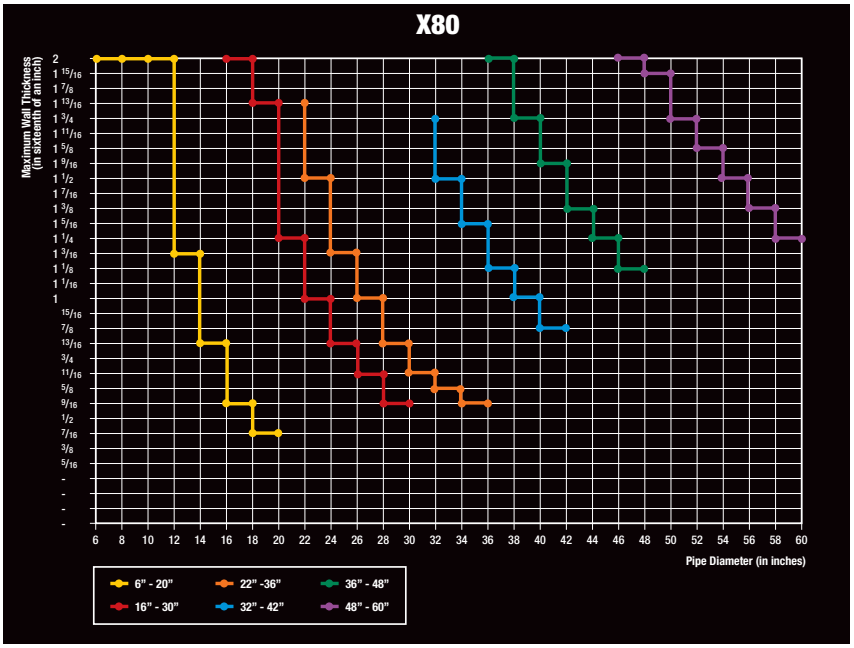
Pipe O.D.	Maximum Wall Thickness By Grade (Inch)							Recommended Bend		
inch/mm	X52	X56	X60	X65	X70	X80	X100	Ratio Radius: O.D.	Radius Meter	Max Degree Per 12 Meters
16 / 406.4	50.80	50.80	50.80	50.80	50.80	50.80	50.80	28.5	11.58	40.80
18 / 457.2	50.80	50.80	50.80	50.80	50.80	50.80	42.87	34.7	15.85	29.70
20 / 508	50.80	50.80	50.80	50.80	50.80	50.80	39.69	38.4	19.51	24.40
22 / 558.8	50.80	49.22	44.45	41.28	36.52	31.75	23.82	39.3	21.95	21.60
24 / 609.6	41.28	38.10	34.93	31.75	28.58	25.40	19.05	38.0	23.16	20.25
26 / 660.4	33.34	30.17	28.58	25.40	23.82	20.64	15.88	37.9	24.99	18.90
28 / 711.2	28.58	25.40	23.82	22.23	19.05	17.47	12.70	37.7	26.82	17.6
30 / 762	23.82	22.23	20.64	19.05	17.47	14.29	11.12	38.4	29.26	16.20

DIMENSIONS

Operating weight 39,683 lbs / 18,000 kg



		Feet	*Meters*
A	Overall length	22.3 ft	6.8 m
B	Overall width	8 ft	2.45 m
C	Height	7.7 ft	2.35 m
D	Width to outside of tracks	7.74 ft	2.36 m
E	Length of front section	4.1 ft	1.26 m
F	Length of undercarriage touching the ground	3.66 ft	1.12 m
G	Length of middle section	7.6 ft	2.33 m
H	Length of track on the ground	4.11 ft	1.26 m
I	Length of rear section	2.75 ft	84 cm
J	Height to bottom of cradle	1.6 ft	50 cm
K	Height to top of roller	2.8 ft	86 cm
L	Length of hitch	1.7 ft	51 cm
M	Ground clearance	1.15 ft	35 cm
Track weight (loose pair) 4,000 lbs / 1,800 kg			



BENDING STRENGTH

Here's an example of our pipe bending machines high bending strength. The bending performance data shown was calculated using **API X80** as an example. The machine is capable of bending all grades of currently available API-5L pipe within its range.

AVAILABLE MODELS

SPB 6-20 Millennium Series

SPB 16-30 Millennium Series

SPB 22-36 Millennium Series

SPB 32-42 Millennium Series

SPB 36-48 Millennium Series

SPB 48-60 Millennium Series

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